

University of Groningen

Validity of the doubly labeled water method for estimating CO₂ production in mice under different nutritional conditions

Guidotti, Stefano; Meijer, Harro A. J.; van Dijk, Gertjan

Published in:
American Journal of Physiology - Endocrinology and Metabolism

DOI:
[10.1152/ajpendo.00192.2013](https://doi.org/10.1152/ajpendo.00192.2013)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2013

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Guidotti, S., Meijer, H. A. J., & van Dijk, G. (2013). Validity of the doubly labeled water method for estimating CO₂ production in mice under different nutritional conditions. *American Journal of Physiology - Endocrinology and Metabolism*, 305(3), E317-E324. <https://doi.org/10.1152/ajpendo.00192.2013>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Table S1: One- or two-pool model equations used for calculation of rCO_2 by the DLW method.

Nr.	Author	Ref #	# pools	Equation	N
1	Lifson and McClintock	21	1	$rCO_2 = \left(\frac{N}{2.08}\right)(k_O - k_D) - (0.015 k_D N)$	$N = N_O$
2	Speakman 7.17	31	1	$rCO_2 = \left(\frac{N}{2.078}\right)(k_O - k_D) - (0.062 k_D N)$	$N = N_O$
3	Coward <i>et al.</i>	4	2	$rCO_2 = \left(\frac{N}{2.08}\right)(N_O k_O - N_D k_D) - (0.015 k_D N_D)$	
4	Schoeller	26	2	$rCO_2 = \left(\frac{N}{2.078}\right)(1.01k_O - 1.04k_D) - (0.0246 N 1.05)(1.01k_O - 1.04k_D)$	$N = \left[\left(\frac{N_O}{1.01}\right) + \left(\frac{N_D}{1.04}\right)\right] / 2$
5	Speakman <i>et al.</i>	31	2	$rCO_2 = \left(\frac{N}{2.078}\right)(1.01k_O - 1.0532k_D) - (0.0246 N 1.05)(1.01k_O - 1.0532k_D)$	$N = \left[\left(\frac{N_O}{1.01}\right) + \left(\frac{N_D}{1.053}\right)\right] / 2$
6	Speakman	30	2	$rCO_2 = \left(\frac{N}{2.078}\right)(k_O - R_{dil}k_D) - (0.06 N R_{dil}k_D)$	$N = [N_O + N_D/R_{dil}]/2$
7	Nagy	23	1	$rCO_2 = \frac{(51.86(TBW_f - TBW_i) \ln(^{18}O_i - ^2H_i) - \ln(^{18}O_f - ^2H_f))}{[(M_i + M_f) \ln\left(\frac{TBW_f}{TBW_i}\right) t]}$	
8	Racette <i>et al.</i>	25	2	$rCO_2 = \left(\frac{N}{2.078}\right)(1.01k_O - 1.04k_D) - (0.0246 N 1.05)(1.01k_O - 1.04k_D)$	$N = \left[\left(\frac{N_O}{1.01}\right) + \left(\frac{N_D}{1.0444}\right)\right] / 2$